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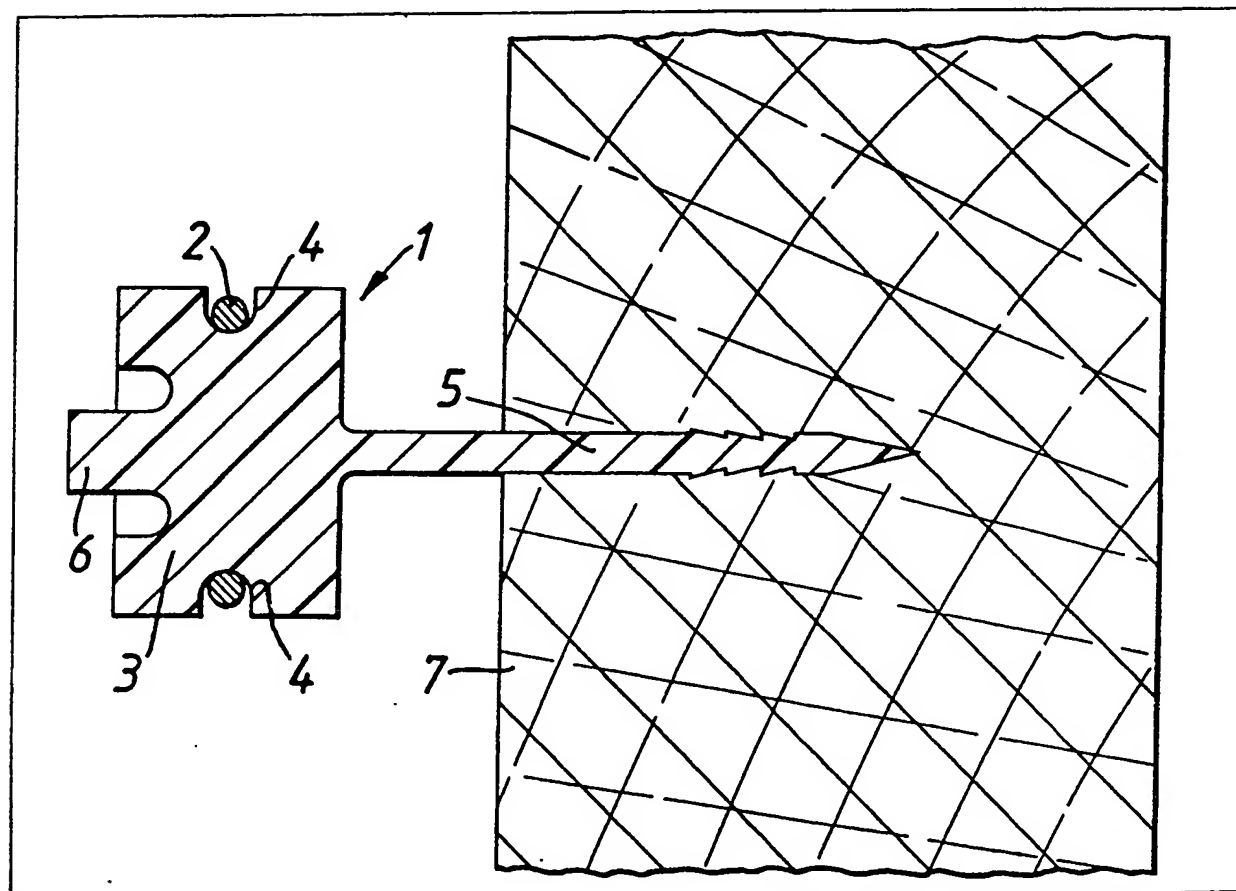
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(54) Electric fence insulator

(57) An electric fence insulator 1 is formed of, for example, plastics with an insulating fixing spike 5 which may be integral with the insulator body. The insulator has a groove 4 or other fixing for a fence wire 2. The risk of electrical leakage through the fence posts 7 when the latter are rendered conductive by, for example, preservative, is reduced by the avoidance of a metal fixing nail. The insulator may be made of nylon or polypropylene optionally reinforced with glass or glass-fibre, or be made of ceramic or glass.

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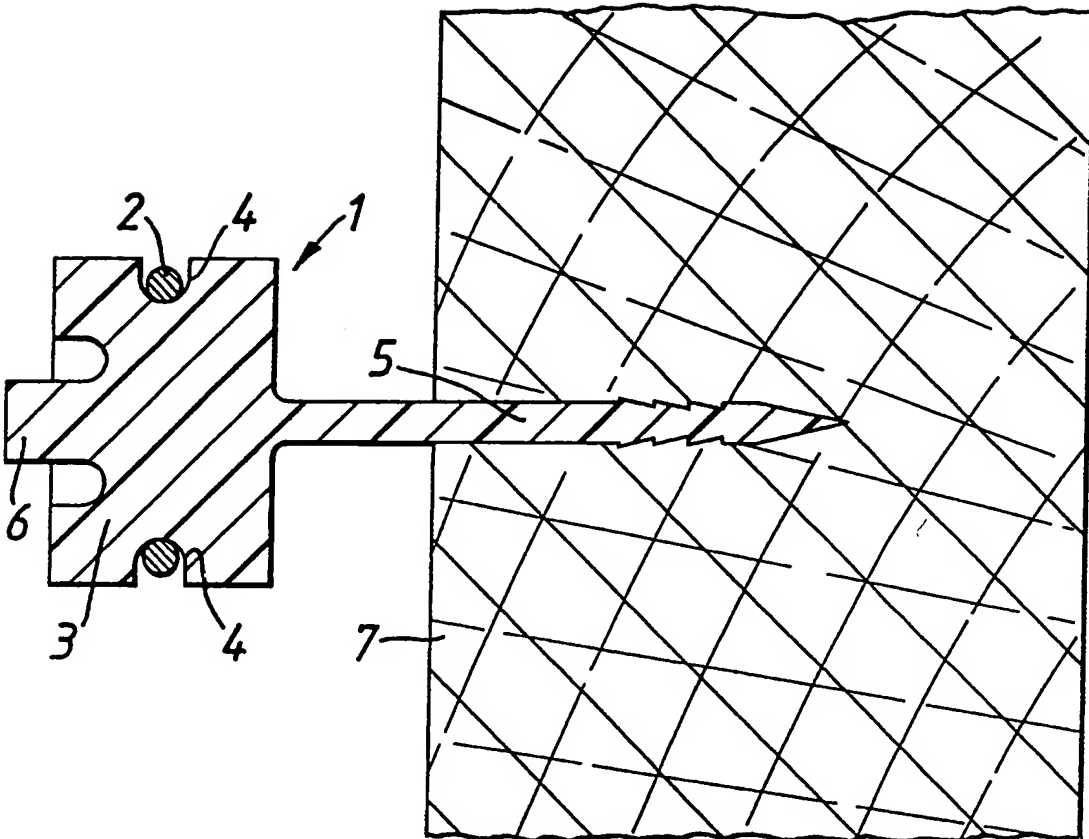


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The drawing(s) originally filed was (were) informal and the print here reproduced is taken from a later filed formal copy.

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## SPECIFICATION

## Electric fence insulator

5 This invention relates to insulators for electric fences.

A common form of electric fence for agricultural use has live wires supported from wooden fence posts by means of insulators which are fastened to the support posts.

The usual form of electric fence insulator has a plastics body with an external peripheral groove in which a loop of the electric fence wire is located and a central through hole for receiving a metal fixing nail which is hammered into the fence posts to secure the insulator to the post. This type of fence insulator has proved to be unsatisfactory, particularly when used with modern fence electrification equipment, which generates very high voltage pulses of short duration. This, coupled with the fact that wooden fence posts when treated with copper-based preservatives are reasonably conductive, can lead to considerable power loss through electrical discharge between the fence wire and the fixing nails, which affords a leakage path to earth through the fence posts. Furthermore, if the fence wire is not properly located on one of the insulators, so that part of the wire comes close to or into contact with the fastening nail, a short circuit path can be provided to earth through the nail and the partially conductive fence post.

The present invention seeks to provide an improved insulator which is suitable for use with electric fences, particularly where conductive or partially conductive fence posts, for example posts of treated wood, are used.

According to the present invention there is provided an insulator for electric fences comprising a body of electrically insulating material and a fixing nail or staple of insulating material for attaching the body to a fence post.

By using a fixing nail or staple of insulating material the insulator of the present invention avoids making electrical contact with the post into which the nail or staple is driven, even if this post is at least partially conductive. Various plastics materials, for example glass-reinforced nylon or polypropylene, are available which are of sufficient hardness and strength to be used as the fixing nail or staple for the insulator. Some ceramic materials may also be suitable for this purpose.

Although the insulating body and the fixing nail or staple may be separate components, in preferred embodiments of the invention the fixing nail or staple is integral with the body. Thus the body and its fixing nail or staple may be moulded or cast in plastics or ceramic material, which if necessary may be reinforced by insulating fibres, for example, glass fibres.

A preferred embodiment of the invention has a cylindrical insulating body with an integral nail in the form of a spike projecting coaxially from one side of the body. Since no separate fixing nail is necessary the body need not have a central hole, and this in turn increases the strength and electrical insulation

of the body.

The invention will be further described, by example only, with reference to the accompanying purely diagrammatic drawing which is an axial sectional view of an electric fence insulator according to one embodiment of the invention, inserted into a fence post.

The drawing shows an insulator 1 for an electric fence 2, part of which is shown. The insulator 1 has a body 3 which is essentially cylindrical, with an external circumferential groove 4 in which a loop of the fence wire 2 is located, in a known manner.

The insulator 1 is formed of insulating plastics material with a low water content, preferably polypropylene, possibly reinforced with glass-fibres.

The insulator is provided with an integral fixing nail in the form of a spike 5 which projects coaxially from one end of the body 3. In the illustrated embodiment the spike 5 has a barbed profile, but this is not essential. At its other end the cylindrical body 3 is formed with an axially projecting anvil portion 6 essentially cylindrical in shape, which is struck by a hammer when driving the spike 5 of the insulator 1 into the wood of a fence post 7, part only of which is shown.

If the wood of the fence post is rendered partially conductive by, for example, treatment with copper-based preservative, the insulating spike 5 which secures the insulator 1 to the post 7 will not provide a conductive path into the post, and the risk of electrical leakage from the fence wire 2 is therefore reduced compared with that of a conventional fence insulator with a metal fixing nail.

## 100 CLAIMS (Filed on 12 Jan 84)

1. An electric fence insulator comprising a body of electrically insulating material and a fixing spike or staple of insulating material for attaching the body to a fence post or other support means.
2. An insulator according to Claim 1, in which the body is made of plastics material.
3. An insulator according to Claim 1 in which the body is made of glass-loaded plastics, fibreglass reinforced plastics, ceramic material or glass.
4. An insulator according to any one of the preceding claims in which the fixing spike or staple is an integral part of the body.
5. An insulator according to any one of the preceding claims, including a fastening nail, clip or lug attached to or integrally formed with the insulating body for the attachment thereto of an electric fence wire.
6. An insulator according to any one of Claims 1 to 4, in which the body is formed with a circumferential groove in which a fence wire is located in use of the insulator.
7. An insulator according to Claim 5 or Claim 6, in which the body is provided with a flange between the fixing spike or staple and the part of the body on which the fence wire is located in use of the insulator, to prevent sparking between the fence wire and the fence post or other support means.
8. An insulator according to any one of the preceding claims, in which the body is provided with

a projecting portion opposite the fixing spike or staple by means of which force may be applied to the insulator to fix it to the post or other support means.

- 5 9. An electric fence insulator substantially as herein described with reference to and as shown in the accompanying drawings.

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